



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

MEMORANDUM TO: Project Engineers  
Project Design Engineers

FROM: G. R. Perfetti, P. E.  
State Bridge Design Engineer

DATE: May 7, 2003

SUBJECT: NEW JERSEY SHAPE BARRIER RAIL

At the request of the Construction Unit, the New Jersey shape barrier rail width has been increased from 1'-5" to 1'-6" (432 mm to 457 mm) in order to provide 3" (76 mm) of clear distance from the back of the barrier rail to the reinforcement. The weight of the barrier rail will be 406 lbs/ft (5.92 kN/m) for a 2'-8" (813 mm) height section.

The barrier rail reinforcement will remain in the exact location with respect to the front face of the barrier rail. The barrier rail will also remain in the same position within the typical section of the bridge. Therefore, the slab overhang beyond the barrier rail will decrease from 1 1/2" (38mm) to 1/2" (13mm) for bridges with cast-in-place decks. The top exterior edge of the slab shall be formed with a 1/2" (13 mm) chamfer. For cored slab bridges, the back of the barrier rail will be flush with the edge of the exterior cored slab unit.

Standards CBR1 (SM) and PCS3 (SM) have been revised to reflect these changes and are included in the 2003 Revisions to the Structure Standards. The standard drawings are available on both the S: Drive and the Structure Design Homepage. The Design Manual will be revised at a later date.

GRP/JTE

Cc: P. A. Simon, FHWA  
R. V. Keith, P. E.  
R. A. Raynor, P. E.  
C. O. Wiggins, P. E.  
R. Hancock, P. E.